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INTELLIGENCE RESOURCES ADVISORY COMMITTEE

12 October 1973

MEMORANDUM FOR: Members of the Intelligence Resources Advisory Committee

SUBJECT : COINS Proposal

Forwarded herewith for your information and review prior to the next IRAC meeting is a copy of a letter from Dr. Hall to Mr. Colby, together with its attachment entitled Proposal for Upgraded COINS Communications Support. As Dr. Hall requested, this matter will be placed on the agenda of the next IRAC meeting, tentatively scheduled for the week of 29 October.

STATINTL

[redacted]

Executive Secretary

Attachment: a/s

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UNCLASSIFIED		CONFIDENTIAL		SECRET

EXECUTIVE SECRETARIAT

Routing Slip

TO:		ACTION	INFO	DATE	INITIAL
1	DCI				
2	DDCI				
3	DDS&T				
4	DDI				
5	DDO				
6	DDM&S				
7	D/DCI/IC	✓		10/10	
8	D/ONE				
9	OGC				
10	OLC				
11	IG				
12	D/PPB				
13	D/Pers				
14	D/OS				
15	D/Trng				
16	SAVA				
17	ASST/DCI				
18	AO/DCI				
19	OGC [redacted]	✓		10/11	
20	EXHS	✓			
21					
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	SUSPENSE _____ Date				

Remarks:
DCI has not seen.
19-20: I am distributing to IRAC principals.

STATINTL

STATINTL

Executive Secretary

Date

Executive Registry
73-3793/1

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

DCI/IC-73-1147

INTELLIGENCE

4 OCT 1973

Honorable William E. Colby
Director of Central Intelligence
Washington, D. C. 20505

Dear Bill:

(C) At the IRAC meeting of 23 July 1973, you requested that I present a COINS proposal at the next meeting. I am forwarding this proposal to you under this covering letter. I would appreciate your distributing copies to the IRAC principals, and placing a discussion of this matter on the next meeting's agenda.

(C) Since the review of COINS which we completed earlier this year, considerable progress has been made in curing many of the deficiencies. Security of the network has been raised to TK permitting NPIC files to become available to the community. One of these files (IDF (Installation Data File)) has become our most heavily used file. System usage has doubled during the last six months. Number of queries has gone from 2000 to nearly 4000 per month, number of files on COINS has gone from 20 to 40, and number of host computer has changed from 3 to 4. We expect even greater acceptance as our supporting documentation and training programs make their impact on the user community. File quality is being reviewed by a joint working group which has already had a marked effect on improving the material in COINS files and making the system more responsive to user needs and desires.

(C) Benefits already gained from COINS are both fiscal and operational. NSA's electrical dissemination of reports covering air movements has been discontinued completely since the advent of COINS, at an estimated annual savings of more than $1 million. COINS has already demonstrated an ability to reduce redundancies with subsequent dollar savings. For example, DIA and NSA jointly combined to create a file addressing Eurasian Air Facilities (AIRSA). More recently NSA

DECLASSIFY on 31 Dec 1979
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has discontinued a file covering Air Order of Battle because the same information was available from a DIA file through COINS. As performance of the COINS network improves we expect analysts to have more incentive to use the files of other agencies rather than create their own. As file usage increases it will pay to improve the timeliness and substance of file data which will further improve file utilization and effectiveness.

(C) However, the present COINS system has limitations which severely restrict the value of the system to the intelligence community. One of the most serious is the COINS computer communication network. The enclosed proposal for an enhanced communication network for COINS directly addresses this problem. It utilizes technology developed by ARPA and is specifically designed to allow for needed network expansion and the use of modern interactive on-line terminal systems.

(C) The enhanced network is only the first step toward the evolution of a worldwide integrated storage and retrieval network for intelligence support. We expect to complete this overall COINS 5-year plan by January 1974. The ultimate payoff should be enhanced effectiveness and reduced costs through a reduction in redundant activities.

(U) If you have any questions about the proposal, or our plans, my staff will be happy to respond.

Sincerely,

Albert Hall

Albert C. Hall

Enclosure

PROPOSAL FOR UPGRADED COINS COMMUNICATION SUPPORT

BACKGROUND

The Community On-Line Intelligence System (COINS) is a secure network connecting several major on-line computer information systems. At the present time, host computers at NSA, DIA, NPIC, and CONAD are interconnected through a computer switch. By means of remote teletype terminals, users from these agencies and those from CIA, the State Department, PACOM and the intelligence staffs of the Service headquarters are able to interrogate certain files of the other agencies in a batch processing mode of operation.

A recent ASD(I) review of COINS for the IRAC pinpointed several weaknesses. Many of these have been eliminated already, or are in the process of being addressed in depth. For example, the network security classification has been upgraded to TK vice SI. Additionally, the entire data base is in the process of being scrutinized and significant improvements have been made.

Technical weaknesses in COINS which that review also noted are in the network configuration and the communications aspects of the system. The network is presently interconnected by means of voice-grade lines (300 characters/second) in a "star" configuration (each host computer connected to a store-and-forward switch--in this case, an IBM 360/30 computer). The lines do not have sufficient capacity for interactive access on high speed terminals. The switch represents a single point-of-failure and is also a stumbling block in the path of growth toward an interactive capability and the need to put the host computers of other using agencies on-line.

This proposal is intended to correct these deficiencies, by upgrading the network communications of COINS. It represents the first step in the development of an integrated, worldwide computer support system for intelligence requirements.

PROPOSED NETWORK

The proposed COINS communications network replaces the present store-and-forward switch and voice-grade communication circuits with

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an advanced and expandable network concept using high-speed lines (6000 characters/second). The new network is based upon the proven technology and operational hardware and software of the ARPANET. Each COINS host will be capable of being inter-connected with each other host through at least two paths. Communication between hosts will be purely a function of network equipment, relieving the host computers of this burden. Additionally, the network will be able to service high speed terminals, allowing for the gradual replacement of the present, slower teletype terminals by CRT's and printers.

Initially the network will service the current host computers. The improvements will be obtained by configuring the network with mini computers called variously Interface Message Processors (IMPs), Terminal Interface Processors (TIPs) or Interactive Analyst Stations (IASs) depending on the required capability at each node. These mini computers will be connected by high speed digital lines and will handle all network communication and routing functions.

The proposed COINS network will modify the current host sites as follows:

NSA: Add an Interface Message Processor (IMP) to connect the present UNIVAC 494 and its COINS files to the network, a Terminal Interface Processor (TIP) for support of terminals, and a Network Control Center.

NPIC: Add an IMP to connect the UNIVAC 494 and its COINS files to the network.

DIA - Arlington Hall: Add an IMP and an IDHS Interactive Analyst Station (IAS). The IAS connects the two present GE-635s and COINS files to the network. A Network Control function is provided, and is used for monitoring and reporting of IDHSC activity.

DIA - Pentagon: Add an IMP and an IAS. The IAS connects a Honeywell 6050 to the network.

Communications within the COINS network will be provided by T1 channels where possible. For reliability, each site has communications access to at least two other sites via independent communications lines. T1 lines will be added as required.

The CIA, State Department and Pentagon sites will be provided with high speed channels to the Terminal Interface Processor (TIP) at NSA for eventual support of high volume terminals.

The present COINS users of the IDHSC network include the following sites and equipments which are under the IDHS program:

CONAD: Contains an IAS which is the switching node and interface for an IBM 360/40.

PACOM: Contains an IAS which is the switching node and interface for an IBM 360/40 and an IBM 360/50.

INTERFACES

The Intelligence Data Handling System Communications (IDHSC) network is the communications system needed to internet the Defense Intelligence Agency (DIA), the Unified and Specified Commands, and the other intelligence components of the Military Departments. The IDHSC centers are to be internetted by a communication system capable of supporting bulk data transmission, remote batch and interactive (conversational) operation. IDHSC will provide communications to interconnect indications and warning centers and IDHS production sites while providing for selected interfaces to the WWMCCS. IDHSC is and will remain fully compatible with COINS, which provides an interconnect capability between the pertinent intelligence community information storage and retrieval systems and networks.

DEVELOPMENT TASKS

Implementation of the proposed network requires assemblage of the following types of components:

New communications lines, COMSEC and termination equipment

Computers for use as data switching nodes (IMP, TIP, IAS) and Network Control Center

Interfaces between data switching nodes and host computers

Communications software; i.e., computer programs for the switching nodes, Network Control Centers, and host computers.

Many of the needed components are available off-the-shelf from commercial organizations. Development tasks are confined to:

Installation and checkout of vendor equipment

Development of interfaces between host computers and switching nodes

Development of software for the IAS based IDHSC network.

IMPLEMENTATION PLAN

Implementation of this plan is expected to take place over a 12 month period. The first site completed will be NSA. Successive sites will follow as soon as satisfactory operation has been achieved.

FISCAL PLAN

The fiscal plan for FY 74 and 75 includes all costs for the proposed COINS communication network as well as COINS program management costs and R&D programs for system monitoring and multi-level security.

	(in thousands) FY 74	FY 75
1. Procurement		
a. Hardware, software, and system integration services		
b. High speed terminals for existing subscribers		
c. Hardware interfaces		
d. Cryptographic equipment		
e. Additional nodes		
2. O&M		
a. Hardware maintenance		
b. PMO travel		
c. Line rental		
3. RDT&E		
a. Existing contract continuation		
b. Additional contracts		
c. Security and monitoring program		

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